

CLAIMS

1. A process for the production of an ester of an organic carbonyl compound and an alcohol by carrying out an esterification reaction in the presence of a catalyst containing an inorganic phosphorus(I) compound
5 and a titanate, characterized in that

- (1) the organic carbonyl compound and the inorganic phosphorus(I) compound are mixed together,
- (2) the mixture obtained is filtered and
- 10 (3) the alcohol and the titanate are added to the filtered mixture and the esterification reaction is carried out.

2. A process as claimed in claim 1, characterized in that a carboxylic acid, more particularly a fatty acid containing 8 to 22 carbon atoms,
15 preferably 12 to 18 carbon atoms, is used as the organic carbonyl compound.

3. A process as claimed in claim 1, characterized in that a hydroxyfatty acid, more particularly a hydroxyfatty acid containing 8 to 22 and preferably 12 to 18 carbon atoms, more particularly 12-hydroxystearic acid, is used as
20 the organic carbonyl compound.

4. A process as claimed in claim 2 or 3, characterized in that a polyfatty acid or polyhydroxyfatty acid with a degree of self-condensation of 2 to 20 and more particularly 2 to 10 is used as the organic carbonyl compound.

5. A process as claimed in any of claims 1 to 4, characterized in that a
25 polyol and, more particularly, a polyalkylene glycol, preferably polyethylene glycol, glycerol, polyglycerol or a mixture of these substances is used as the alcohol.

6. A process as claimed in any of claims 1 to 5, characterized in that the titanate used is a titanate which is capable of forming esters with the
30 alcohol used, more particularly a tetraalkyl orthotitanate and preferably

tetraisopropyl titanate or tetrabutyl titanate.

7. A process as claimed in claim 6, characterized in that the titanate is used in a quantity of 0.01 to 0.1% by weight, based on the total quantity of organic carbonyl compound, alcohol and catalyst.

5 8. A process as claimed in any of claims 1 to 7, characterized in that phosphorus(I) acid or a salt thereof is used as the phosphorus(I) compound.

9. A process as claimed in claim 8, characterized in that the phosphorus(I) compound is used in a quantity of 0.1 to 1% by weight,
10 based on the total quantity of organic carbonyl compound, alcohol and catalyst.

10. A process as claimed in any of claims 1 to 9, characterized in that, before the filtration step (2), an inorganic base, preferably a basic salt and more particularly a carbonate, is added to the mixture containing the
15 organic carbonyl compound and the inorganic phosphorus(I) compound.

11. A process as claimed in claim 10, characterized in that the inorganic base is added in a quantity sufficient to neutralize the phosphorus(I) compound substantially completely.

12. A process as claimed in any of claims 1 to 11, characterized in that,
20 in step (1) of the reaction, the organic carbonyl compound and the inorganic phosphorus(I) compound are mixed for at least 20 minutes at a temperature of 20 to 220°C, preferably at a temperature of 60 to 180°C and more particularly at a temperature of 80 to 120°C.

13. A process as claimed in any of claims 1 to 12, characterized in that
25 the reaction is carried out in the melt or in a nonpolar, inert organic solvent, preferably one which forms an azeotrope with water accompanied by a reduction in boiling point.

14. A process as claimed in any of claims 1 to 13, characterized in that the esterification reaction is carried out in the melt at a temperature below
30 240°C and more particularly at a temperature of 180 to 220°C.

15. A process as claimed in any of claims 1 to 14, characterized in that at least the esterification reaction is carried out in an inert gas atmosphere.